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November 20, 2008
9110-07-17 NS: DM

TO: Distribution

FROM: David Morris

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held November 20, 2008 JPL Building 126-Room 200 1PM.

NEXT JURAP MEETING:
Thursday, December 18, 2008
JPL Bldg 126, Room 200, Time 1PM

Attendees:

H. Ahlstrom	J. Frautnick	C. Hernandez	C. Page	M. Smith
A. Andujo	K. Fujii	D. Holmes	C. Parker	T. Thompson
C. Bixenman	A. Kniepkamp	J. Jai	E. Pereira	P. Tay
D. Dillard	J. Hall	E. M-Chapman	D. Scott	K. Yetter
L. Efron	P. Hames	D. Morris	D. Seal	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The previous JURAP meeting was held on October 16, 2008 at the Jet Propulsion Laboratory.

Introductory Remarks – D. Morris

Welcomed the attendees to the JURAP meeting. Remarked on the mid-range conflict resolution status and address the fact that the mid-range schedule needs full cooperation from all missions and projects schedulers to attempt to accelerate the negotiation and have more weeks available to meet most missions and projects criteria.

Spitzer IRAC Warm Instrument Characterization (IWIC

C. Scott

- Helium Usage: based on extrapolation of past measurement and future operational plans, predicted cryogen depletion date is 4/19/09 +/- 9 days.
- IRAC Warm Instrument Characterization (IWIC) critical period is 4/1/09 – 6/1/09 includes cryogen depletion, stand-by recovery, the IWIC, and transition to Warm Mission Operations plus margin.
- 34M/70M arrays will be needed for IWIC, a single 34M station is adequate for stand-by recovery
- Spitzer requests the following changes for DSN Scheduling during weeks 14-22 of 2009: 2 hour 70M or 34M track above 30deg every 12 hours +/- 2 hours with a 4 hour 34M or 70M track above 30 deg which fully overlaps the first track. 34M/70M must be arrayed, and any allocation in low elevation (below 30deg) must be followed by at least two nominal tracks (above 30deg)
- Spitzer also requests the DSN to grant priority status during the recovery from stand-by and post-cryogen depletion IWIC currently targeted for 4/19/09
- If the cryogen is depleted before week 14 or after week 22, then Spitzer will perform IWIC within our 2 hour allocation (and use station directed activities time).

Kepler Launch and Early Operations Planning

M. Smith

Kepler will find Earth size planets via the Transmit method

Salient features:

- Habitable Zone Planet Finder
- Heliocentric Earth-Trailing Orbit;
- Science Instrument: Photometer
  - 0.95 m aperture, 1.4 m primary
  - 42 CCDs, 96 million pixels; largest arrary of CCDs flown
- Launch date: March 5, 2009
- Launch Vehicle: Delta 2925-10L
- Operational life: 3.5 years
- Possible Extended Mission : Up to 2.5 Additional Years

Science

Explore the structure and diversity of planetary systems. Survey a large sample of stars to:

- Determine the frequency of terrestrial and larger planets in or near the habitable zone of a wide variety of spectral types of stars;
- Determine the distributions of sizes and semi-major axes of these planets;
- Estimate the frequency and orbital distributions of planets in multiple-stellar systems;
- Determine the distributions of semi-major axis, albedo, size, mass and density of short-

period giant planets;
- Determine the properties of those stars that harbor planetary systems.
- Identify additional members of each photometrically discovered planetary system using complementary techniques

Mission Operations

- Experiment design results in simple operations
  - Stare at same field for entire mission
  - Targets in that field:
    - Planned downselect after year 1 (stellar variability, reduced telecom bandwidth)
    - Redefine target location on CCDs after each quarterly roll
    - Small set of target changes for Guest Observers and higher resolution observations
  - Other than Launch and Initialization, Kepler has no "time-critical events" by typical DSN standards
  - Our time-sensitive events include:
    - Cover jettison is a commanded activity, deemed mission critical because it is irreversible and premature release could be mission ending
    - Can delay planned quarterly rolls 7+ days before fault protection enters safe-mode to meet sun-angle constraints

Resource Analysis Team

Mid-Range Status – S. Chhan

Week 51 - 52 have been released to DSN Scheduling
Week 01 – 02 of 2009 were released to the Remote Users
Week 01 – 10 of 2009 have remaining facility and equipment conflicts

Mid-Range scheduling process has scheduled 15 weeks ahead of real-time and there are currently 6 weeks of conflict-free schedules. Conflict resolution is required for the following five weeks 01/19/2009 through 03/08/2009.

On-going special studies/activities:

None

Antenna Downtime Status and Forecast:

DSS-63 Downtime extension for Grouting
- This downtime extension is planned for grouting of the antenna May 25 through June 7, 2009, weeks 22 & 23.

Summary: Analysis results reveal the following:
- Cluster II SSO supports are at DSS-63/65, move to DSS-54/65.
- MRO Relay and Science requesting any 70m

- MUSC requesting DSS-14,25,63 or 54, no foreseeable conflict
- NHPC Cruise/Telemetry, no foreseeable conflict.

The projected load at DSS-54, DSS-55 and DSS-65 are such that the DSS-63 requested downtime could be supported at this time.

DSS-54 Downtime for Ka-Band Phase 2 Implementation

- This downtime has requested a new start date of June 8, and ending date of September 6, 2009, weeks 24 – 36.

Summary: Analysis results reveal the following:

- DSS-63 has requested to extend an additional 2 weeks for grouting, weeks 22 & 23.
- CHDR has an Earth Eclipse in weeks 22 - 26 and a Dark Current in week 29, no foreseeable conflict.
- Cluster II SSO supports are at DSS-54/65, move to DSS-63/65.
- Kepler has their Quarterly Roll in week 25 and Monthly Science in week 30, no foreseeable conflict.
- Potential LCROSS approach and impact if they require DSS-54.
- MRO Relay and Science, no foreseeable conflict.
- MSGR TCM in weeks34 & 35, no foreseeable conflict
- SOHO has Continuous and Keyhole supports that can be supported primarily by DSS-65 with DSS-63 as back up.
- WIND TCM in week 36, no foreseeable conflict

The projected load at DSS-55 and DSS-65 and the extended downtime at DSS-63 are such that the DSS-54 requested downtime could be supported at this time.

DSS-24 downtime for Painting

- This downtime has been requested for FY2010 August 30 – October 24, 2010 (weeks 35 – 42). The antenna will have no movement weeks 35 – 38. There will be off shift (0200 – 1400 UTC) tracking time available weeks 39 – 42.
- It is not suggested that Depot Level Maintenance be scheduled during this downtime.

Summary: Analysis results reveal the following:

- Cluster 2 SSO supports are at DSS-27/24/15/14, move to DSS-27/15/14.
- Cluster 4 MSO supports are at DSS-27/24/15/14, move to DSS-27/15/14.

The projected load suggest that the requested downtime could be supported at this time.

The following downtimes for 2008-2009:

- DSS-24 TXR Motor Generator Repair
  This 24 hour downtime is scheduled for November 3, 2008 just prior to the DSS-24 Ka-Band Phase 2 downtime

- DSS-24 Ka-Band Phase 2 downtime starts November 4, 2008 through January 31, 2009 (weeks 45 – 5).
  This downtime will start November 4 to allow TXR Motor Generator repair on November 3, 2008
  Antenna calibrations will be during the 1st half of January and demo tracks during the 2nd half of January.

- DSS-14 5-day Grouting is scheduled for November 2008, weeks 47 & 48.
  This grouting period will run in parallel with the DSS-24 downtime for Ka-Band Phase 2 in weeks 47 & 48, DOYs 326/0315-331/0000.
  Added 20kW Transmitter Upgrade NIB to DSS-14 Bearing Regrout in November. This is a transmitter controller upgrade. The antenna will be in receive only during swing & mid shift.

- DSS-43 downtime for Life Extension and Depot Level Maintenance will start January 5, 2009 and end April 12, 2009, weeks 2 – 15

- DSS-14 3-day Grouting is planned for April of 2009 week 16.
  Cassini has requested that this downtime start before their critical support on DOY 110.

- DSS-54 Ka-Band Phase 2 is planned for May 25 through August 16 of 2009 weeks 23 - 33.
  Analysis has concluded that supports using DSS-54 can be supported by DSS-63.

- DSS-63 downtime for Life Extension will start April 28, and end May 24, 2009, weeks 18 - 21.
  This activity should be renamed to El Bearing Replacement
  Additional time will be added to the 70m Power and HBA Upgrades in 2011 to replace time given up for DSS-54 Ka-Band Phase 2.

- DSS-14 downtime for Life Extension and Depot Level Maintenance will start October 3, 2009 and end May 2, 2010 weeks 40-17

Downtime request for 2009

The following proposals for downtime are requested by GDSCC.

- Complex preventative maintenance “Apollo Tie-Line Electrical Maintenance”
  A proposal is out for 008/1645-0645 (week 2 of 2009).
  DSS-24 downtime and some projects have not concurred as of yet.

- Complex preventative maintenance “Echo Tie-Line Electrical Maintenance” has been moved to start after the Apollo Tie-Line Electrical Maintenance.
  This can be moved to early CY 2009, proposed for week 7

- Complex corrective maintenance “G86/G81 Transfer Switch Electrical Maintenance”
  Has been moved to start NET week 4 of 2009.

Additional time is being requested – these request have been postponed the NET 2009,

week 26.

- Two 8-hour complex downtimes for cutover, final connection and testing of the new G86 Substation, Mars Site.

- Four 14-hour periods between July 2009 and January 2010 for testing of G86 Substation, Mars Site

The following proposals for antenna downtimes are requested but are on hold at this time.

- HEF Transmitter Manifold Installation at DSS-15, -45 and -65 between July, 2008 and June 2009 not to be scheduled concurrently with DSS-15 being scheduled first. This is a 4 day downtime period.
  This installation has been put on hold.

- Request 7 consecutive days for HEF Servo – Installation and test of Rev D board either at DSS-15 or DSS-45.
  Put on hold at this time, but can be scheduled after the DSS-24 Ka-Band Phase 2 and as late as September 2009

The following proposals for antenna downtimes are requested.
Information from the requester is inserted in Italics.
There have been no further updates for this request.

- Request Complex-TLAN downtime for SPC-10, -40, -60 for NMC S/W Integration and Test
  Request 8 hours between 7/27/2009 and 11/06/2009

- Request SPC-10 8-hour complex downtime to install NMC S/W.
  Request 09/08/2009 and 10/05/2009
  The intent is to test our software/hardware under operational conditions. The software engineers will be physically at the site monitoring and assessing the software. For this test, we need to conduct it at GDSCC since we will be present at the site.
  MSL launch of October 8, 2009 may impact this downtime.

- Request complex downtime for NMC S/W Acceptance test for SPC-10, -40, -60.
  Request 8 hour blocks from 11/7/2009 through 02/05/2010

- Request NMC S/W Soak Testing

- Request 8 hours of downtime for SPC-10 in mid February 2010, SPC-40 in mid March 2010 and SPC-60 in mid April 2010.
  The soak testing will start with SPC-10 first, followed by either SPC-40 or SPC-60 depending on the available schedule.
  For SOAK, we plan to install software/hardware and conduct a set of tests before turning the NMC back to ops. We can use the DSN maintenance windows

The following downtimes are for 2010 and 2011

- DSS-34 downtime for Azimuth Track Replacement has been proposed for week 5 of 2010, local summer.
  It is proposed to start February 1, through April 11, 2010, weeks 5 - 14
  This was moved for a Cassini requested support.

- DSS-15 downtime for Pintle Bearing is scheduled for May 3, through June 27, 2010, weeks 18 - 25.
  DSS-15 Elevation Gearbox Replacement will be scheduled during weeks 18 & 19 of the Pintle Bearing downtime.

- DSS-25 downtime for Ka U/L is scheduled for August 2 – 29, 2010 weeks 31 – 34.
  Depot Level Maintenance will be scheduled during this downtime.

- DSS-65 downtime for Life Extension Elevation has been proposed for weeks 31 - 41 in 2010.

- DSS-24 downtime for painting is proposed for September through October 2010 weeks 35 – 42
  Project impacted significantly is Cluster II, they will be moved from DSS-27/24/15/14 to DSS-27/15/14.
  There will be complete 24/7 downtime for the first 4 weeks and dayshift downtime (1400-0200) for the remaining weeks.
  No Depot Level Maintenance will be scheduled during this downtime.

- As a result of the reduction of downtime for DSS-43 & DSS-63 in 2008 & 2009, it is requested to recover that time in 2010 and 2011, local spring, summer or fall after DSS-14 RTS.
  DSS-43 is proposed for November 2010 thru February 2011 after EPOXI encounter.
  DSS-63 is proposed for April 4, through September 4 of 2011 weeks 14 – 35, just after Messenger MOI.

Closing statements: D. Morris